DOCUMENT RESUME

ED 312 038 PS 018 231

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TITLE "Dial-R," "Motor-Free Visual Perception Test", and "Peabody Picture Vocabulary Test": Interpretation from a Kindergarten Screening.
PUB DATE 88
NOTE 22p.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Guidelines; Instructional Development; *Kindergarten; Preschool Teachers; Primary Education; *Screening Tests; *Test Interpretation; Test Manuals
IDENTIFIERS *Developmental Indicators Assessment Learning Rev; *Motor Free Test of Visual Perception; Peabody Picture Vocabulary Test

ABSTRACT

The Developmental Indicators for the Assessment of Learning-Revised (Dial-R) Test, the Peabody Picture Vocabulary Test (PPVT), and the Motor-Free Visual Perception Test (MFVPT) were used for kindergarten screening in three rural schools in Texas. Teachers in the schools requested a handbook that would help them interpret test scores and plan instruction. For each subtest of the Dial-R, PPVT, and MFVPT, handbooks provided background information, informal definitions, notes on implications of children's difficulties, alternate interpretations of poor performance, notes on sex differences, references to related tests, specifications of subcomponents of test responses, and so forth. Teachers with no extensive knowledge of learning disabilities could gain an impression of children's strengths and weaknesses by looking at sections of the handbooks related to the test items that the children succeeded at or had difficulty with. A subtest comparison chart and a profile for defining students' weaknesses and strengths, and guidelines for use of the chart and profile, are provided. (RH)

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ED312038

Dial-R, Motor-Free Visual Perception Test, And Peabody Picture Vocabulary Test: Interpretation from a Kindergarten Screening

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Abstract

The Dial-R, Motor-Free Visual Perception Test, and Peabody Picture Vocabulary Test are used in a kindergarten screening program. An interpretation is offered for the results of the subtests in a practical format for the kindergarten teacher without knowledge of learning disabilities. A subtest comparison chart and a profile to define weaknesses and strengths are provided for reference.

Dial-R, Motor-Free Visual Perception Test, and Peabody Picture Vocabulary Test: Interpretation from a Kindergarten Screening

The Dial-R, the Peabody Picture Vocabulary Test, and the Motor-Free Visual Perception Test was used in a kindergarten screening in three rural schools. Teachers in these schools requested that a handbook on interpretation be supplied to them. The profiles from the individual tests forms were not considered to be useful to the classroom teacher, as the profiles did not explain or give indications for further instruction that was meaningful to these classroom teachers.

Using the following interpretation guide and forms, the classroom teacher was instructed to look over the individual profiles. An informal assessment of strengths and weaknesses could be done by looking at the individual items each child missed or passed. The following information was furnished to each teacher to help her/him in making a meaningful interpretation for instructional planning.

Developmental Indicators for the Assessment of Learning -Revised (DIAL R)

SUBTEST: MOTOR

According to the Gesell Institute of Human Development (Haines, Ames, & Gillespie, 1980), an average five-year-old can stand on one foot for nine minutes or more. The five-year-old can walk on tiptoe five or more steps and skip using alternate feet. A child at five can broad jump about 27 inches landing with his/her feet placed squarely and can toss an object at a target using an overhand throw (Haines, Ames, & Gillespie, 1980).

Children, who have not acquired the skills of hopping, skipping, bicycle riding, buttoning, and tying, may have potential learning difficulty. Children, who have problems with balance, manipulation of small pieces, and locomotor coordination, have been found to have reading difficulties. In extreme forms of incoordination and motor dysfunction, a child may be labeled cerebral palsied (Myklebust, 1967). A cerebral palsied child may have the characteristic drawing of the thumb toward the extended fingers, when reaching toward something. However, as Myklebust (1967) warned, one must look carefully at whether the motor problem is a disability or symptom of other learning problems. Children with learning disabilities may have motor difficulties, but children

with motor difficulties may not be academically behind or delayed. Learner (1985) stated that "for many learning disabled students, motor incoordination is a serious impediment and does characterize their functioning" (p. 266). According to Biehler and Hudson (1986), normally developing children can run and ride a tricycle before they can tie their shoes or write.

1. Catching. A child who cannot catch a thrown object may have a delay in large muscle development. The child may appear to be clumsy in other activities, like dancing and sports. A child who appears to be always "dropping things" characterizes this lack of coordination. Girls do not usually do as well in the physical skills of throwing, catching, jumping or running as boys, but these sexual differences are attributed to practice as opposed to genuine sexual differences (Biehler & Hudson, 1986).

2. Jumping, Hopping, and Skipping. A child who cannot jump, hop or skip may appear clumsy. These skills require using alternate sides of the body. The inability to alternate sides may have some correlation to the inability to cross the mid point of the body. This inability is most noticeable in reading, where the child is required to coordinate the eyes to move across the page from left to right. In other words, a child who cannot alternate the sides of the body may not be able to read from the left to the right and then to return to the next line on the left. Inability to hop on

both left and right or to skip may indicate the child lacks bilateral development. A lack of bilateral development has been found to be correlated with a lack of readiness to read left to right (Lerner, 1985).

3. Building. The building item tests spatial relationship and visual-motor coordination. An inability in this area could mean that a child cannot see the configuration of words or see the spaces between words. A child with spatial difficulties may not be able to judge distances. Common errors are reaching for items and either over- or under-reaching. Children who lack ability in visual motor coordination and spatial relationships may have difficulty with the visualization of the entire number system. The student may not be able to perceive distances between numbers or to understand 3 is closer to 4 than to 6. Students who lack visual- motor coordination may be unable to count by pointing to objects, to see groups or sets, or to perceive a geometric shape as a whole (Lerner, 1985) Related tests are: finger touching, cutting counting, sorting and positioning.

4. Touching Fingers. The touching fingers exercise measures the manual dexterity necessary for holding a pencil and writing. Lerner (1985) states that handwriting is the "most concrete of the communication skills" (p. 401). Finger touching checks for control of the finger muscles, which Lerner (1985) states is necessary for

legible handwriting and writing readiness.

5. Cutting. Cutting measures the child's eye-to-hand coordination. Inability to do this task indicates lack of readiness to write or to cut. Readiness to write and to cut are perquisite to academic success. Cutting surpasses the skill of finger touching as it involves the ability to control arm, hand, finger and visual coordination, all the skills required in handwriting (Lerner, 1985; Lerner, Mardell-Czudnowski,& Goldenberg, 1981).

6. Matching. The matching subtest measures object recognition of new material. A kindergarten student's ability to recognize geometric patterns, letters, and numbers has been found to correlate with reading readiness (Lerner, 1985).

7. Copying. The copying subtest requires the student to copy a series of designs. Drawing a design indicates ability in fine motor coordination and visual motor coordination. Inability in this area may indicate a lack of readiness for writing. Other difficulties may be seen in an inability to transfer exercises from text or board to paper without errors (Lerner, 1985; Sattler,1982).

8. Writing Name. Writing name is a motor/learning activity that is the most advanced of the series, because it indicates readiness for reading and writing. Writing one's name involves fine-motor skill and the pre-requisite skills for reading.

SUBTEST . CONCEPTS

Concepts are cognitive categories that help children to organize information and acquire new knowledge. Whether a child has acquired more abstract concepts, such as number, distance, and space, provides an indication of whether he/she has progressed to the level of cognitive development or readiness for academic success.

1. Naming Colors. About 4 per cent of all males, but less than 1 per cent of females are color blind (Vallee & Dethier, 1976). A color naming test may help to screen for color-blindness and academic readiness. As much of our school related activities are color-coded, knowledge of colors appears necessary for academic success. " Research shows that children develop color concept shortly after that of shape, reflecting that the people around the child make more reference to color than to shape" (Beaty, 1988, p.117). Although no research could be found to indicate the reason educators stress learning colors or that lack of this knowledge was an indication of a disability, colors do tend to be the words or concepts that most kindergarten students know before school attendance. The more colors that a student recognizes and names correctly might be an informal indication of parental teaching before school attendance.

2. Identifying Body Parts. Students, who do not or cannot identify body parts, may lack language experiences associated with learning body part names. An inability in this area may also be indicative of poor body image. Body image is an awareness of the relationship of the body to spatial environment. A child who lacks the ability to name body parts may have difficulty moving his body in an organized way and in judging where his/her body is in relation to the rest of the classroom (Hallahan & Kauffman, 1976). Most school tasks and most of our action in everyday life require both knowledge of body movement and location.

Body awareness, another aspect of naming body parts, may have some impact on the self-concept of the child. Peterson (1987) states that identification of the body parts typically begins at the age of two years of age. The child learns to point to various body parts and then listens to the comments of significant others. The content of these comments from others may become incorporated into the self-concept of the child, i.e., that's your fat tummy, you have ugly hair (Peterson, 1987).

3. Counting. Rote counting is memorization of a series of numbers without a concept of value or one-to-one correspondence. Inability to rote count may indicate a lack of educational experiences or difficulty in long-term memory.

Counting is the most fundamental arithmetic skill, according to Hallahan & Kauffman (1976). The child must (1) have developed the visual-motor skill of touching, (2) the verbal skill of stating the number in sequence, and (3) combining and coordinating the two skills (Hallahan & Kauffman, 1976).

4. Counting (meaningful). Meaningful counting requires the ability to associate value with a particular numeral. Understanding of this basic concept is necessary for success in mathematics. Students with learning disabilities may score low in this area. Students with potential academic difficulty may not understand the relationship of body parts, may lack understanding of time and direction, and may have difficulty with other spatial relationships. However, many students with arithmetic disabilities may have good verbal and auditory abilities. Therefore, inability in counting does not effect reading readiness (Lerner, 1985; Myers & Hammill, 1982; Hallahan & Kauffman, 1976).

5. Positioning. Positioning involves the verbal expression of spatial relationships that are usually acquired at the pre-school level. Children with an arithmetic disability often confuse relationships such as up-down, over-under, top-bottom, high-low, near-far, front-back, beginning-end, and across. A disturbance in this spatial perception interferes with the visualization of the entire number system. A child who cannot complete this task at an

appropriate level lacks readiness for arithmetic (Lerner, 1985; Myers & Hammill, 1982; Hallahan & Kauffman, 1976).

6. Identifying Concepts. The relationship between language and thought is a subject of considerable controversy; however, the intent of this task is to measure whether a child understands concepts such as longest-shortest, biggest-smallest, hot-cold, and other terms used in mathematics. A task designed in this manner helps to indicates whether the child has entered the concrete operations stage of cognitive development. A child in the concrete operations stage is considered to be ready for school (Harris, 1986)

7. Naming Letters. Naming letters measures ability to recognize specific letters, a more advanced reading readiness task. Recognizing individual letters is a prereading skill. Children seem to recognize whether letters have straight or rounded shapes first. The most readily recognized letters for the kindergarten child are the round letters like O or C. The second set of letters to be recognized are usually those with curved lines like P or S. Next, are letters with intersections, like B or R. Letters with diagonal lines are the last to be recognized (Beaty, 1986).

8. Sorting Chips. Chip sorting is another of the task which indicates the transition from pre-operational thought to concrete operations. A child in concrete operations can correctly sort objects by two dimensions (such as color and shape) demonstration

that they can decentralize and take more than one aspect of a situation into consideration. In order to do school related tasks, especially in arithmetic, these abilities need to be present (Seifert & Hoffnung, 1987).

SUBTEST: LANGUAGE

Most kinds of academic learning are based on facility with verbal symbols or language. The ability to grasp the abstract appears to be highly related to one's mastery of language. An estimation of language development provides an indication of readiness for language arts, listening, speaking, reading, spelling, and writing. A child scoring low may be suggest a child needs to be referred to a speech therapist and/or bilingual teacher for language development.

1. Articulating. The articulation subtest provides screening for possible speech problems and whether referral is suggested to a speech therapist. Articulation with other subtests may indicate a developmental delay, if there are many disfluencies. Articulation influences spelling and phonetic structure of words. A disfluent child might look for the word "mouf" for mouth or "han" for hand (Lerner, 1985; Lerner, Mardell-Czudnowski & Goldenberg,1981).

2. Giving Personal Data. Giving personal data subtest gives an estimation of the child's long term memory and of how much teaching has taken place in the home. Beyond that, it measures the child's

fluency with language: Does he give specifics or does she try to point? Does the child know all of his name, her address, etc.? (Lerner, 1985).

3. Remembering. The memory task helps the classroom teacher to see if the child has an adequate short-term memory. The task also show distractibility. The easiest tasks to concentrate on are psychomotor (clapping), then numbers, and finally, the most complex, sentence. The more advanced the memory system the more likely the child has those skills needed for reading and language arts (Seifert & Hoffnung, 1987).

4. Naming Nouns. Children tend to learn nouns first. The naming nouns subtest is especially useful in determining the development of language, especially in the bi-lingual child or the child who lacks average language experiences(Seifert & Hoffnung, 1987).

5. Naming Verbs. Verbs are acquired later than nouns. Again, this indicates a higher level of language development (Harris, 1986).

6. Classifying Foods. Not only does this subtest give an estimation of language development, the tasks are related to the Piagetian task of being able to classify. Ability to classify shows readiness to read (Harris, 1986).

7. Problem Solving. The problem solving subtest measures not only language, but also social development. This subtest shows how aware the child is of his/her environment. Anti-social behavior or lack of moral development, as defined by Kohlberg or Piaget (Harris, 1986) may be indicated by answers to the question, "What do you do when you break something that belongs to someone else?"

8. Sentence Length. A "rule of thumb" is that the child's longest sentence should contain roughly one word for every year old the child is.

PEABODY PICTURE VOCABULARY TEST (PPVT)

The PPVT test measures proficiency with the English language. The score provided is a verbal educational expectancy level. The average range is from 77-123 points which is 1.5 standard deviations above and below its mean of 100 (Sattler, 1982). Children scoring low on this test and in the Language section of the DIAL-R may have some language deficiencies or may simply not speak English. In either case, the child low in these areas should be given intensive language development activities.

MOTOR-FREE VISUAL PERCEPTION TEST (MOTOR-FREE)

The Motor-Free is a test of visual perception which avoids motor involvement. The score given is comparable to the PPVT and the DIAL-R with average score being 1.5 standard deviations above

and below its mean of 100. The average scores are between 78-122 points.

Items 1-3. The first three items measures visual discrimination or the ability to pick out like forms and dominate feature. This skill is necessary in recognizing sight words in reading. With a disability in this area, a child might confuse C and G, P and R, or g and q, etc. (Lerner, 1985).

Items 4-8. Items 4-8 measures figure-ground, a form of visual discrimination that involves the ability to distinguish an object from its background. A simple example of a disability in this area would prevent a child from seeing an isolated word because of all the other words or pictures on the page. A child with this disability could not fine the "hidden objects" in a picture (Lerner, 1985).

Items 9-13. Items 9-13 measure spatial relationships. Spatial relationship measures the ability to orient one's body in space and to perceive the positions of objects in relations to oneself and to other objects. An example of a spatial relationship task would be the perception of pictures, figures, or patterns which are disoriented in relations to each other (for example, reversals). The skill requires that one has to recognize a figure of a word whether presented horizontally, diagonally, vertically, or upside-down (Lerner, 1985).

Items 14-21. Items 14-21 measure visual memory. Visual memory involves the ability to recall dominant feature of one stimulus item or to remember the sequence of several items. Visual memory allows one to remember the sequence of letters forming a word (Lerner, 1985).

Item 22-32. Item 22-32 measures visual-closure. This form of visual discrimination involves the ability to identify incomplete figures when only fragments are presented. Closure has to do with the level of organizations of the brain and is related to organizing and sequencing of incoming and out-going neurological events. Visual closure precedes such abilities as auditory-closure which is the basis of phonetics. In other words, a child with a disability in this area may not be ready to read in a phonetic program (Lerner, 1985).

Items 33-36. Items 33-36 are a combination of visual discrimination and spatial relationships. Children may not be able to discriminate between letters and words with similar configuration.

RELATIONSHIP BETWEEN SUBTESTS AND SKILLS(Table 1)

Comparison Chart (Table 1) provides a chart of the subtests of the three instruments and the skills surveyed. The chart is provided so that the classroom teacher can readily look at the subtest pattern of passes and misses. An examination of the skills pattern forms the basis for educational planning. Students with similar patterns

might be grouped for enrichment activities whether the child appears to be advanced or below expectation. A weakness that appears to be common among many of the class members might be best addressed with a special center activity.

THE KINDERGARTEN SCREENING PROFILE (Table 2)

The Kindergarten Screening Profile (Table 2) was developed to provide a comparison of scores from three different instruments. The normal range was considered to be plus or minus 1.5 standard deviations (SDs) from the mean. Instruments may be compared in this manner, according to Anastasi (1988), even though they do not have the same standard deviation or mean.

The norms for the areas of Motor, Concepts, and Language are reported in the Dial-R for plus or minus 1.5 SDs. The corresponding scores based on the manuals of the PPVT and the Motor-Free are 77-123 points and 78-122 points, respectively. A student scoring within, above, or below these ranges had the appropriate area shaded on the profile. The shading allowed the classroom teacher to immediately see if there was a potential difficulty. A potential difficulty was defined as below the average range in one or more areas. Potentially advanced students were those within the above average range.

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Table 1

Comparison Chart of Screening Instruments

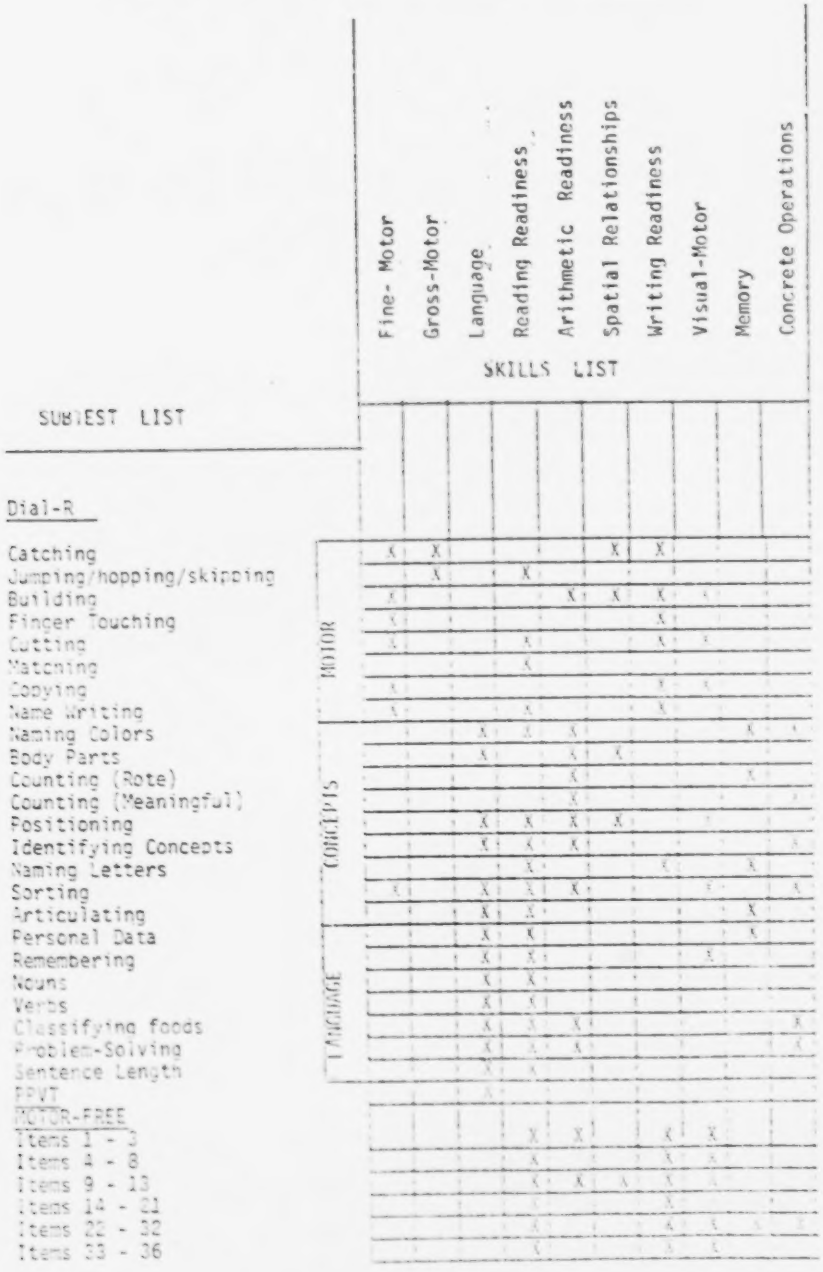

Table 2

Kindergarten Screening Profile

NAME_____ AGE_____

TEACHER_____ GRADE_____

DIAL-R

	Potential Difficulty	Average	Potential Advanced
Motor			
Score_____			
Concepts			
Score_____			
Language			
Score_____			
TOTAL			
Score_____			

PEABODY PICTURE VOCABULARY TEST

Score_____

MOTOR-FREE VISUAL PERCEPTION TEST

Score_____